

**Work Order ID 61680**

Tuesday, August 31, 2010 11:47:28 AM



Page 1

Item ID: D3290-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Window Assembly

Start Date: 8/31/2010 Start Qty: 4.00



Cust Item ID:

Required Date: 9/7/2010 Req'd Qty: 4.00



Customer:

Reference:

Approvals:

Process Plan: HDate: 10-8-31

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3290	DEO Rev C1

100

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3290 ( use prog. for D3290-1)

Dwg Rev: C1Prog Rev: C1

2-Deburr if necessary

6061 . 063

10-9-15



110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

10-9-15

120

0.00



QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

8.06.09/17



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 61680

Tuesday, August 31, 2010 11:47:28 AM



Page 2

Item ID: D3290-041	Accept		Setup Start	
Revision ID:			Stop	
Item Name: Replacement Window Assembly				
Start Date: 8/31/2010	Start Qty: 4.00		Cust Item ID:	
Required Date: 9/7/2010	Req'd Qty: 4.00		Customer:	
Reference:				

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run Start	
	QC:	Date:	SPC (Y/N):	Date:	Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00  0.00		=7 M 10/09/12		4	0		
140  Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum M115291 Memo START TIME: 1:45 OVEN TEMPERATURE: 320° FINISH TIME: 2:15.	0.00  0.00	BR	10-9-20.		4	0		
150  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00		=7 M 10/9/12		4	0		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 61680

Tuesday, August 31, 2010 11:47:28 AM



Page 3

Item ID: D3290-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Window Assembly

Start Date: 8/31/2010 Start Qty: 4.00



Cust Item ID:

Required Date: 9/7/2010 Req'd Qty: 4.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
	Small Fab					(4)			
Small Fab	Memo	0.00							
Small Fab	Assemble as per Dwg D3290 Clean D3290-041 and place in plastic wrap								
			SAO	1040-01					
			<del>1040-01</del>						
170		0.00							
	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00				(x4)			
Quality Control									
180		0.00							
	Identify as per dwg & Stock Location: 219								
Packaging	Memo	0.00							
Packaging									

10/10/10 SP 40

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



**NOTE:** Date & initial all entries


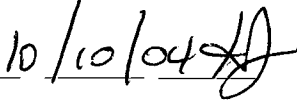
**Work Order ID 61680**

Tuesday, August 31, 2010 11:47:28 AM

Page 4

Item ID: D3290-041 Accept  Setup Start   
Revision ID:  
Item Name: Replacement Window Assembly Stop   
Start Date: 8/31/2010 Start Qty: 4.00  Cust Item ID:  
Required Date: 9/7/2010 Req'd Qty: 4.00  Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							  10/10/04  MF 10-10-4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Tuesday, August 31, 2010 11:47:32 AM

Page 1

Work Order ID: 61680

Parent Item: D3290-041

Parent Item Name: Replacement Window Assembly




Start Date: 8/31/2010

Required Date: 9/7/2010

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP B 05.05.25 Added Step 11 KJ/JLM  
IPP C 06.05.09 Ecn 798 EC  
IPP Rev:D Now on Waterjet 06-06-16 JLM  
IPP rev E rev C dwg 07.09.28 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.063  6061-T6 .063 Sheet		Purchased	No			100	sf	104.9340	3.75	15.78947			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				MAT21				104.934					
				113608				104.934					
D2126  Seal		Manufactured	No			160	f	316.2234	6.5	26			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST405				316.2234211					
				48285				22.0884211					
				57106				294.135					
(D2126-0780) cut qty (1) at 78.00" as per dwg ***per kit***													
D3290-3  Window		Manufactured	No			160	Each	17.0000	1	4			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST221				17					
				57837				8					
				58726				9					

B10-9-15

113608

(4)

26

SAD 10-10-01

26

SAD 10-10-01

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

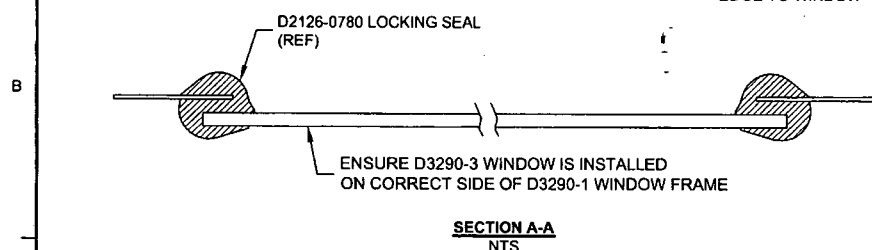
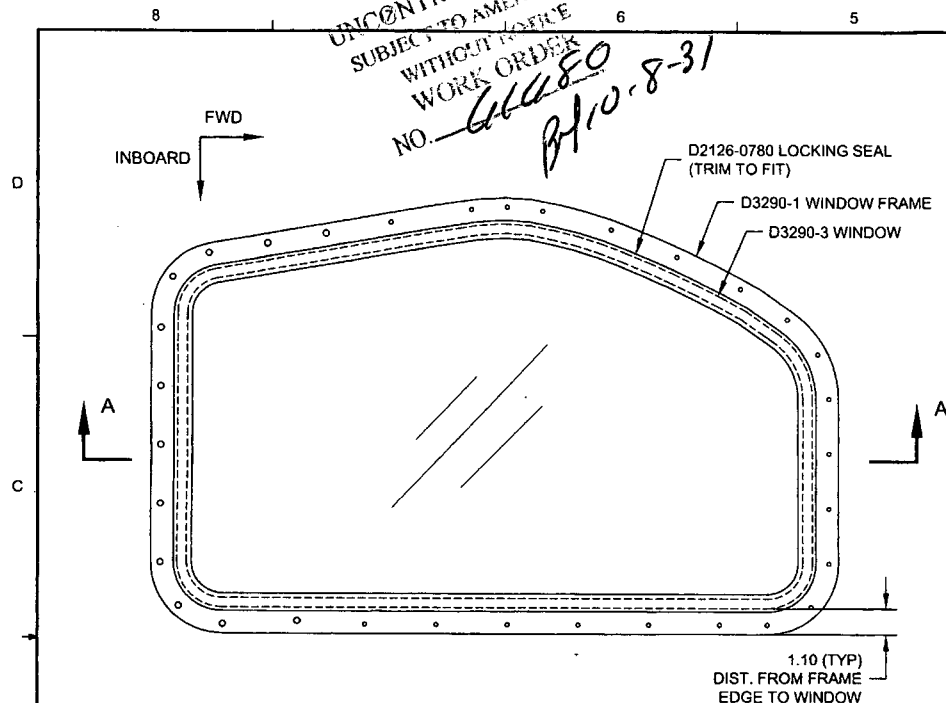
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *4480*  
*810-8-31*

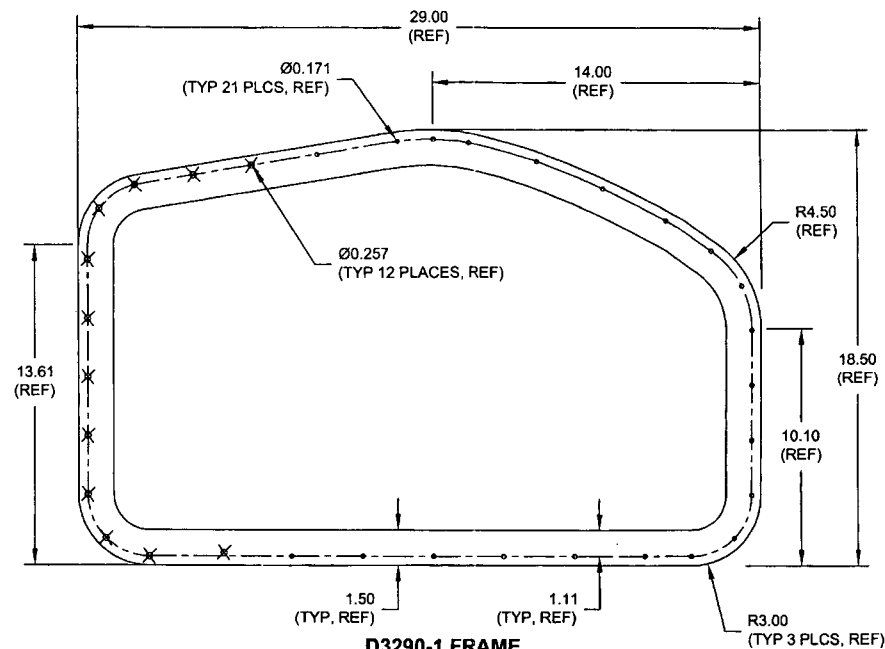


### D3290-041 REPLACEMENT WINDOW ASSEMBLY

**D3290-041 NOTES:**  
1) WEIGHT: 3.66 LBS

**GENERAL NOTES:**

- 1) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) UNITS: INCHES UNLESS OTHERWISE NOTED



### D3290-1 FRAME

**D3290-1 NOTES:**

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET 0.040 THICK  
PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027  
(REF. DART SPEC. M6061T6S.040)  
OR  
5052-H32 ALUMINUM SHEET 0.040 THICK  
PER AMS-QQ-A-250/8 OR AMS 4016  
(REF. DART SPEC. M5052H32S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER QSI 005 4.1  
POWDER COAT WHITE (REF. 4.5.3.1) PER DART QSI 005 4.3
- 3) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 4) IDENTIFICATION: IDENTIFY WITH DART P/N "D3290-1" USING FINE POINT PERMANENT INK MARKER
- 5) WEIGHT: 0.47 LBS

**RELEASED**  
07.07.24  
**DEO ATTACHED**

**UNDER REVIEW**

*4409.01.18*  
*7112 09-057*  
*69/10/19*

C	UPDATE DIMS PER PAR 188	DC	07.07.24
B	UPDATE MATERIAL PER NCR 029	MB	06.04.20
A	NEW ISSUE	RF	04.06.14
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	07.07.24		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3290  
REV. C  
SHEET 1 OF 2

TITLE  
REPLACEMENT WINDOW ASSEMBLY  
SCALE  
1:5

COPYRIGHT © 2004 BY DART AEROSPACE LTD  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

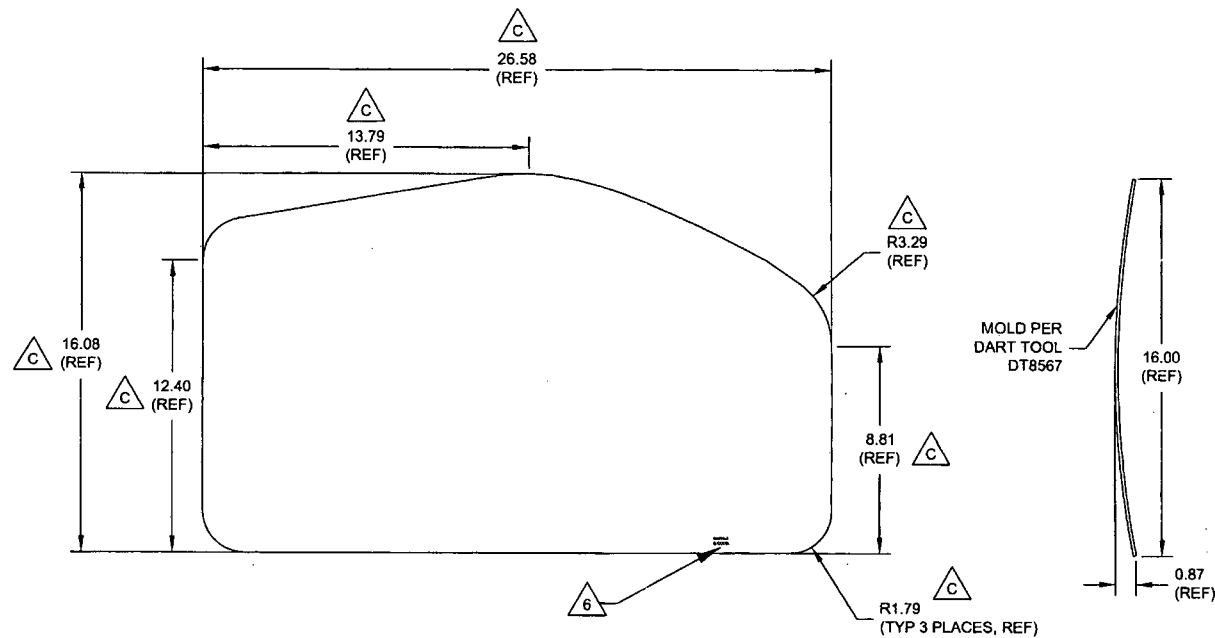
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3290-3 WINDOW**



**D3290-3 NOTES:**

- 1) MATERIAL: POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425  
OR PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER  
LP-391 TYPE 1 GRADE C, 0.125 THICK  
(REF. DART SPEC. M-ACRYLIC-S.125)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) REMOVE SHARP EDGES
- 6) IDENTIFICATION: ENGRAVE P/N "D3290-3" AND B/N ON LOWER EDGE  
USE 0.125" HIGH LETTERS TO MAXIMUM DEPTH OF 0.005"
- 7) WEIGHT: 1.87 +/- 0.42 LBS
- 8) MOLD PER DART TOOL DT8567

**UNDER REVIEW**  
*7-18*

**DEO ATTACHED  
RELEASED**  
*07.09.22*

DESIGN	<i>3</i>	<b>DART AEROSPACE LTD</b>
DRAWN	<i>3</i>	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>3</i>	DRAWING NO. REV. C
MFG. APPR.	<i>3</i>	D3290 SHEET 2 OF 2
APPROVED	<i>3</i>	TITLE SCALE
DE APPR.	<i>3</i>	REPLACEMENT WINDOW ASSEMBLY 1:5
DATE	07.07.24	<small>COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE COPIED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DRAWING NO. D3290	TITLE REPLACEMENT WINDOW ASSEMBLY	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3290-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>h</i>	MFG. APPR. <i>E</i>	APPROVED <i>MP</i>		DE APPR. <i>#</i>		
DATE 09.09.18	DATE 09.09.18	DATE 09.09.18	DATE 09/09/21		DATE 09/09/21		

**PURPOSE:**

CHANGE MATERIAL THICKNESS OF D3290-1 FRAME TO 0.063 FROM 0.040. REF PAR 09-033.

**CHANGE:**

MATERIAL CALL-OUT OF D3290-1 FRAME ON SHEET 1 IS AMENDED AS FOLLOWS:

**D3290-1 NOTES**

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET 0.040 THICK 0.063 THICK (REPLACE)  
 PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027  
~~(REF. DART SPEC. M6061T6S.040)~~ REF. DART SPEC. M6061T6S.063 (REPLACE)  
 OR  
 5052-H32 ALUMINUM SHEET 0.040 THICK 0.063 THICK (REPLACE)  
 PER AMS-QQ-A-250/8 OR AMS 4016  
~~(REF. DART SPEC. M5052H32S.040)~~ REF. DART SPEC. M5052H32S.063 (REPLACE)

*wlo 46680*

**RELEASED**  
 2009 -10- 09

*MP*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries